Agency: Department of Transportation and Public Facilities

Project Title: **Project Type:** Planning and Research

Community Access Roads - Kake to Petersburg

State Funding Requested: $4,500,000 **House District:** 5 / C
Future Funding May Be Requested

Brief Project Description:

Project is under the Department of Transportation's Community Access Program. Project will improve access between the communities of Kake and Petersburg and eventually facilitate the construction of a hydro electric powerline to Kake within the transportation corridor. Funding is for permitting, engineering, right-of-way, and design for road and power transmission corridor between the communities.

Funding Plan:

Total Cost of Project: $26,000,000

	Funding Secured		Other Pending Requests		Anticipated Future Need	
	Amount	*FY*	*Amount*	*FY*	*Amount*	*FY*
State Funds	$2,000,000	09				
Total	$2,000,000					

Explanation of Other Funds:

The Alaska Energy Authority was appropriated $2.0 mill previously for this project.

Detailed Project Description and Justification:

Project is under the Department of Transportation's Community Access Program. Project will improve access between the communities of Kake and Petersburg and eventually facilitate the construction of a hydro electric powerline to Kake within the transportation corridor. The proposed Kake-Petersburg Intertie is the next step in the regional development of the Southeast Alaska power grid. State funding is for permitting, engineering, right-of-way, and design for road and power transmission corridor between the communities.

Project Timeline:

FY 2011

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

Alaska Department of Transportation & Public Facilities

Grant Recipient Contact Information:

Name:	Frank Richards
Address:	6860 Glacier Highway
	Juneau, AK 99811
Phone Number:	(907)465-1762
Email:	frank.richards@alaska.gov

Contact Name: Miles Baker
Contact Number: 465-3873

For use by Co-chair Staff Only:

$4,500,000
Approved

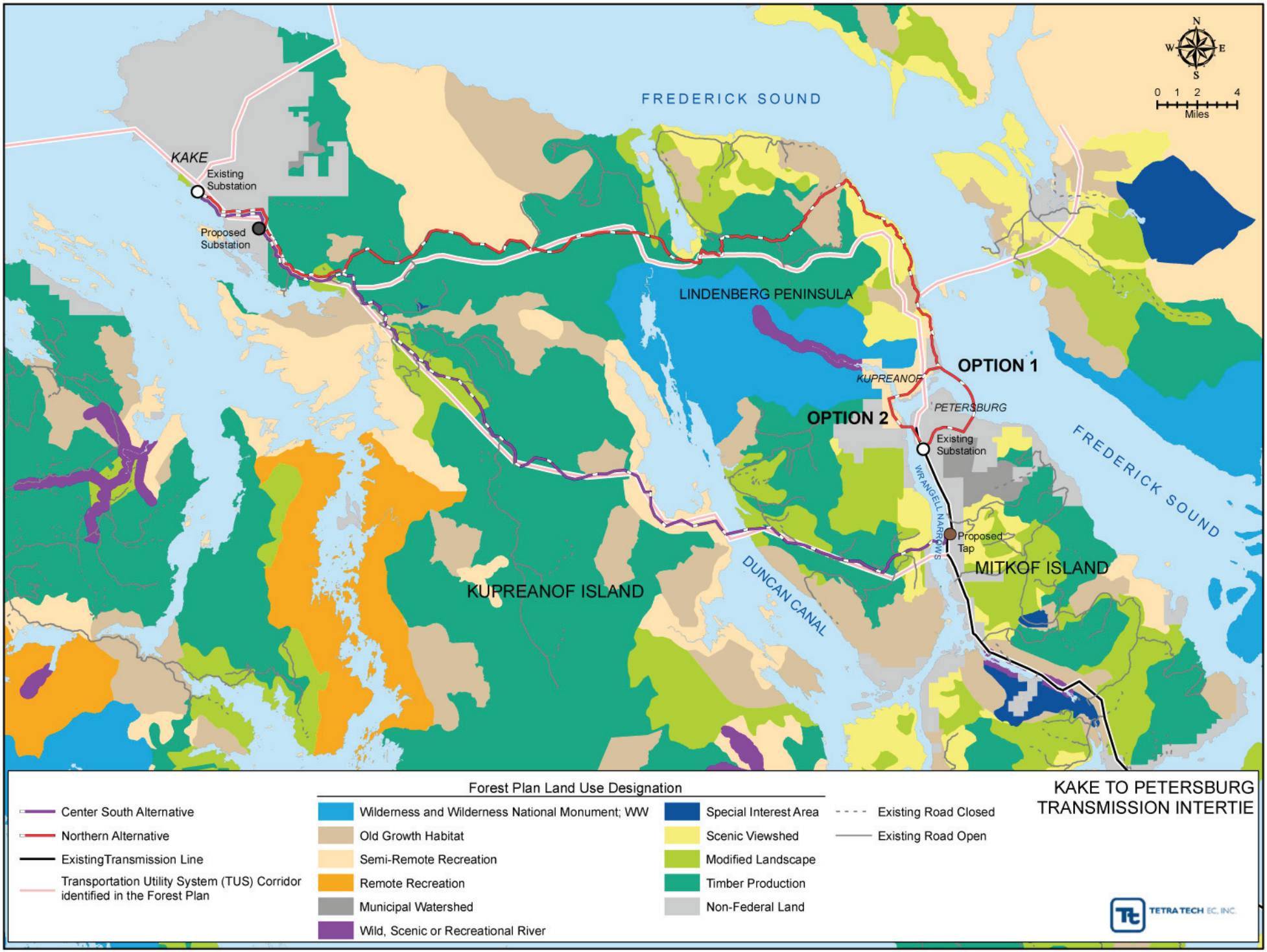
5:23 PM 5/4/2010

Has this project been through a public review process at the local level and is it a community priority? [X] Yes [ ] No

Contact Name: Miles Baker
Contact Number: 465-3873

For use by Co-chair Staff Only:

5:23 PM 5/4/2010


FREDERICK SOUND
KAKE
Existing Substation
Proposed Substation
LINDENBERG PENINSULA
OPTION 1
KUPREANOF
PETERSBURG
OPTION 2
Existing Substation
WRANGELL NARROWS
Proposed Tap
FREDERICK SOUND
MITKOF ISLAND
KUPREANOF ISLAND
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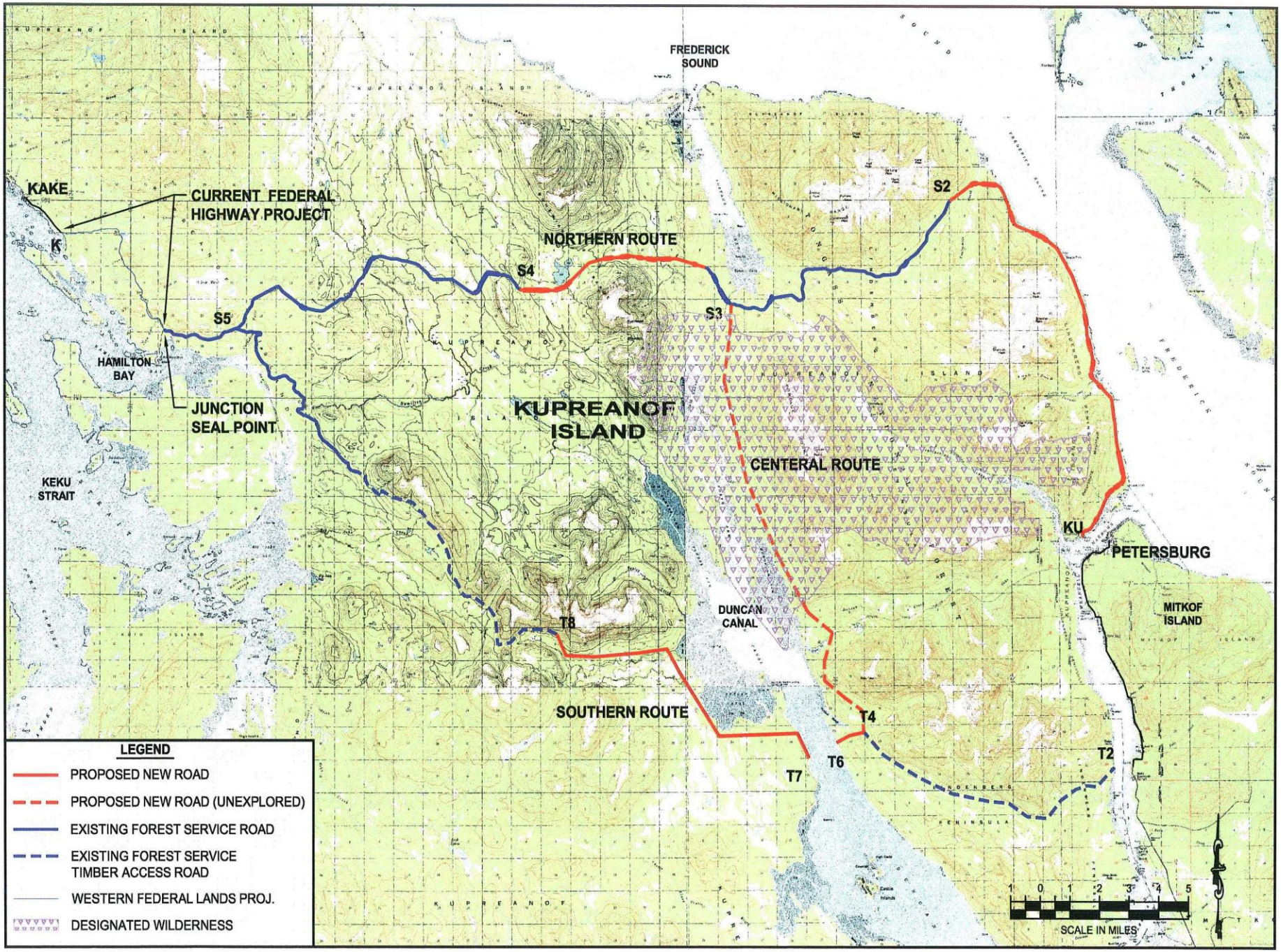
Miles
Forest Plan Land Use Designation
Center South Alternative
Northern Alternative
ExistingTransmission Line
Transportation Utility System (TUS) Corridor identified in the Forest Plan
Wilderness and Wilderness National Monument; WW
Old Growth Habitat
Semi-Remote Recreation
Remote Recreation
Municipal Watershed
Wild, Scenic or Recreational River
Special Interest Area
Scenic Viewshed
Modified Landscape
Timber Production
Non-Federal Land
Existing Road Closed
Existing Road Open
KAKE TO PETERSBURG TRANSMISSION INTERTIE
TETRA TECH EC, INC.


FREDERICK SOUND
KAKE
CURRENT FEDERAL HIGHWAY PROJECT
NORTHERN ROUTE
S2
S3
S4
S5
HAMILTON BAY
JUNCTION SEAL POINT
KUPREANOF ISLAND
CENTERAL ROUTE
KEKU STRAIT
KU
PETERSBURG
MITKOF ISLAND
DUNCAN CANAL
T8
SOUTHERN ROUTE
T4
T6
T7
T2
LEGEND
PROPOSED NEW ROAD
PROPOSED NEW ROAD (UNEXPLORED)
EXISTING FOREST SERVICE ROAD
EXISTING FOREST SERVICE TIMBER ACCESS ROAD
WESTERN FEDERAL LANDS PROJ.
DESIGNATED WILDERNESS
1 0 1 2 3 4 5
SCALE IN MILES

Slo Duc Creek Bridge Before Reconstruction

Slo Duc Creek Bridge After Reconstruction

Kake – Petersburg Road and Power Line Inter-tie Project Brief

By: DOT&PF Southeast Region Planning & Preliminary Design

February 1, 2010

SUMMARY

BACKGROUND

The City of Kake desires to have a power inter-tie to low cost electrical power available at Petersburg and road access to the medical, transportation, and commercial services available at Petersburg. Kake's top priority is the power connection as soon as possible followed by construction of road access to commercial, medical and transportation facilities and services in Petersburg.

Intertie: The Kake – Petersburg Intertie (KPI) study has considered two primary intertie alternatives referred to as the Northern Route and the Southern Route (excluding a central route through a wilderness). A 2005 KPI route study identified the Southern route as the lower cost route to construct. A 2009 KPI study update found the Northern route lowest cost to construct – estimated at $30 million. This estimate is premised on the feasibility of a proposed directional bore of a conduit hole under Wrangell Narrows and under Petersburg Creek, yet to be confirmed by geotechnical investigation and very low clearing and a construction road cost estimates.

Road: DOT&PF has a Section 4407 Preconstruction Easement from the US Forest Service to develop a transportation/utility corridor along the Northern Route between Kake and Petersburg and a Section 4407 Easement along a portion of the Southern Route between Kake and Totem Bay. The Northern Route is considered to be the only practical route available around the wilderness area for development of a direct road connection between Kake and Petersburg.

- A low volume single-lane road with inter-visible turnouts, two ferry terminals and a small shuttle ferry designed to serve primarily local traffic is estimated to cost $100 million.
- A paved two lane road, including two ferry terminals and two small shuttle ferries designed to serve a significant volume of transient traffic is estimated to cost $147.4 million.

Intertie construction road cost estimates by the KPI study are considerably lower than DOT&PF's construction road cost estimates. KPI road estimates of $200,000 to $230,000 per mile are based on a very low standard and logging road construction costs. The total clearing and road construction cost estimates are reduced by substantial merchantable timber credits. The US Forest Service does not feel significant merchantable timber value exists in the areas impacted.

The road construction standard proposed in the KPI study will not directly benefit future highway development. Construction of the Intertie on steep side slope sections in advance of highway construction without excavating and filling these sections to meet the grade and alignment requirements of a future highway would likely increase the cost of highway construction by imposing restrictions on construction methods, such as blasting rock cuts and retaining fill sections in order to protect the constructed power line.

DOT&PF RECOMMENDATIONS

If the state intends to build both the Intertie and road within a Section 4407 Easement it will be important to coordinate development of both facilities and build the construction road for the intertie on the alignment and grade planned for a future highway. Constructing the road in support of the Intertie on the planned road alignment within the northern corridor easement could ultimately save the state an estimated $20 million, assuming the eventual construction of both road and intertie connections. Not constructing the construction road on the proper alignment may increase the cost of future highway construction. If benefits to both projects are to be realized the initial construction of an "Upgradable Construction Road" on the proper alignment needs to be funded up front. Most important would be construction of rock cuts to accommodate the future road design alignment and grade. The cost to design, acquire permits, acquire the Section 4407 Construction Easement, and construct an upgradable construction road that supports both KPI and a subsequent highway project is estimated at $43.9 million.

INITIAL FUNDING REQUIREMENTS

The DOT&PF needs funding to accomplish the following tasks required to apply for the Section 4407 Construction Easement:

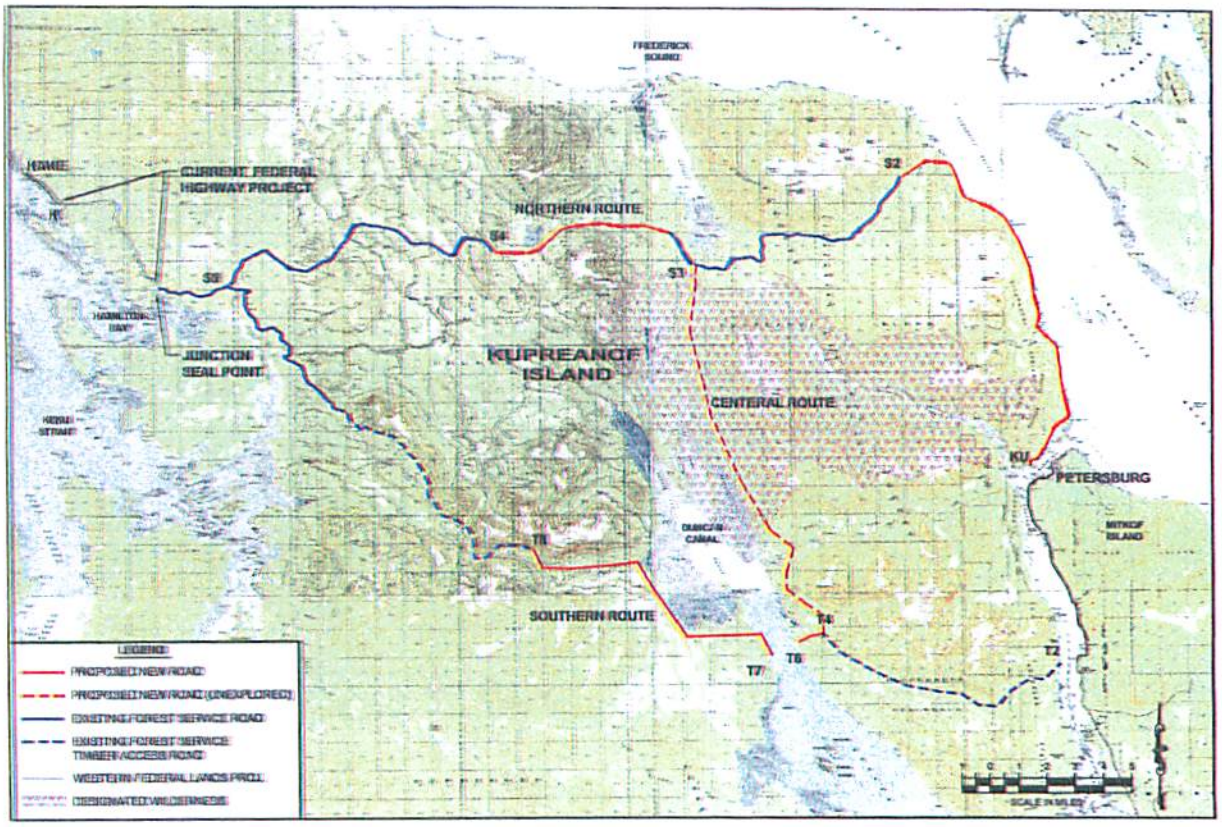
1. Design and establish the alignment of the proposed highway connection between Kake and Petersburg,
2. Design an upgradable intertie construction road on the grade and alignment of the future highway,
3. Application for an Army Corps of Engineers permit for dredge and fill of wetlands and waters of the USA,
4. Application for a Section 4407 Construction Easement from the US Forest Service.

Tasks 1 through 3 should be accomplished prior to actual request for issuance of the Section 4407 Easement. The source of funding for an expedited process would have to be state funds to avoid the lengthy federal-aid highway development process and allow work to proceed on all tasks simultaneously. The time required to accomplish this work is estimated between 2 & 4 years. Road development work is currently on hold pending funding.

DOT&PF Preliminary Engineering and Design Cost Estimate for Construction Rd.

Estimated Time, Preliminary Engineering and Design cost (2-4 yrs)	$2.5 Million.
Estimate for design of 22.1 miles "Upgradable Construction Road."	$4.0 Million
Total Road Preconstruction (Easement & Design) **Cost Estimate**	**$6.5 Million**

Route Map below depicts the Northern and Southern Routes and the route through the Wilderness between (see map legend).



COMPARISON OF NORTHERN ROUTE CONSTRUCTION ROAD OPTIONS AND COST ESTIMATES

TABLE COMPARING NORTHERN ROUTE CONSTRUCTION ROAD ALTERNATIVES AND COST ESTIMATES (2009 dollars)

Alternatives	Construction Estimates
KPI May 2009 Study 10-12 ft. wide Construction Road Est.	$ 1.52 Million[1]
DOT&PF Construction Only Road 12 ft. wide, temporary bridges Estimate	$24.9 Million
DOT&PF Upgradable Construction Road Estimate	$37.4 Million
DOT&PF Upgradable Construction Road, including all Preconstruction Costs	$43.9 Million

[1] This figure is from KPI Study dated May 2009. DOT&PF believes this estimate is low based on constructing a new road for 22.1 miles to connect the existing logging roads. 22.1 miles of road and costing $230K per mile is $5.083 Million not 1.52. This does not include bridges.

COST COMPARISONS OF VARIOUS COMBINATIONS OF INTERTIE AND ROAD ALTERNATIVES

TABLE PRESENTING COMBINED COSTS OF EACH COMBINATION - MILLIONS

Options	North Intertie Direct Bore Conduit	North Intertie Marine Cable	North Road Only	South Intertie Marine Cable
1. KPI Intertie w/o Clearing & Road Estimate	$28.5	$37.0	N/A	$34.3
2. KPI Intertie w Const. Only Road	$30.0	$38.5	N/A	$37.9
3. DOT&PF Const . Only Road	$53.5	$62.0	N/A	$48.3
4. DOT&PF Upgradable Const . Road	$69.9	$78.4	N/A	N/A
5. Single Lane Road	$138.4	$146.9	$109.9	N/A
6. Paved 2 Lane Road	$189.6	$198.1	$161.1	N/A

The cost estimates for the Intertie in the first two rows are derived from the Kake – Petersburg Intertie (KPI) Study Update, Draft Report, by D Hittle and Assoc., May 2009.

1- Row one is KPI's estimate for construction of the Intertie, excluding clearing and road construction.
2- Row two is KPI total cost estimate, including clearing, road construction and credit for harvesting merchantable timber within the right of way.
3- The numbers in rows three and four represent the sum of row one and DOT&PF's cost estimate for construction roads.
4- The totals in rows five and six represent the sum of row one and DOT&PF's estimate for construction of a single lane gravel transportation road and a paved two lane highway with a shuttle ferry connection to Petersburg.
5- Savings of a combined project on the Northern Route over separate routes is $11 to $20 million depending on which Northern Intertie scenario is selected.

Combining the red underlined numbers in the table above provides a comparison of the combined cost of developing the intertie and road in separate corridors: the intertie in the southern corridor and the road in the northern corridor:

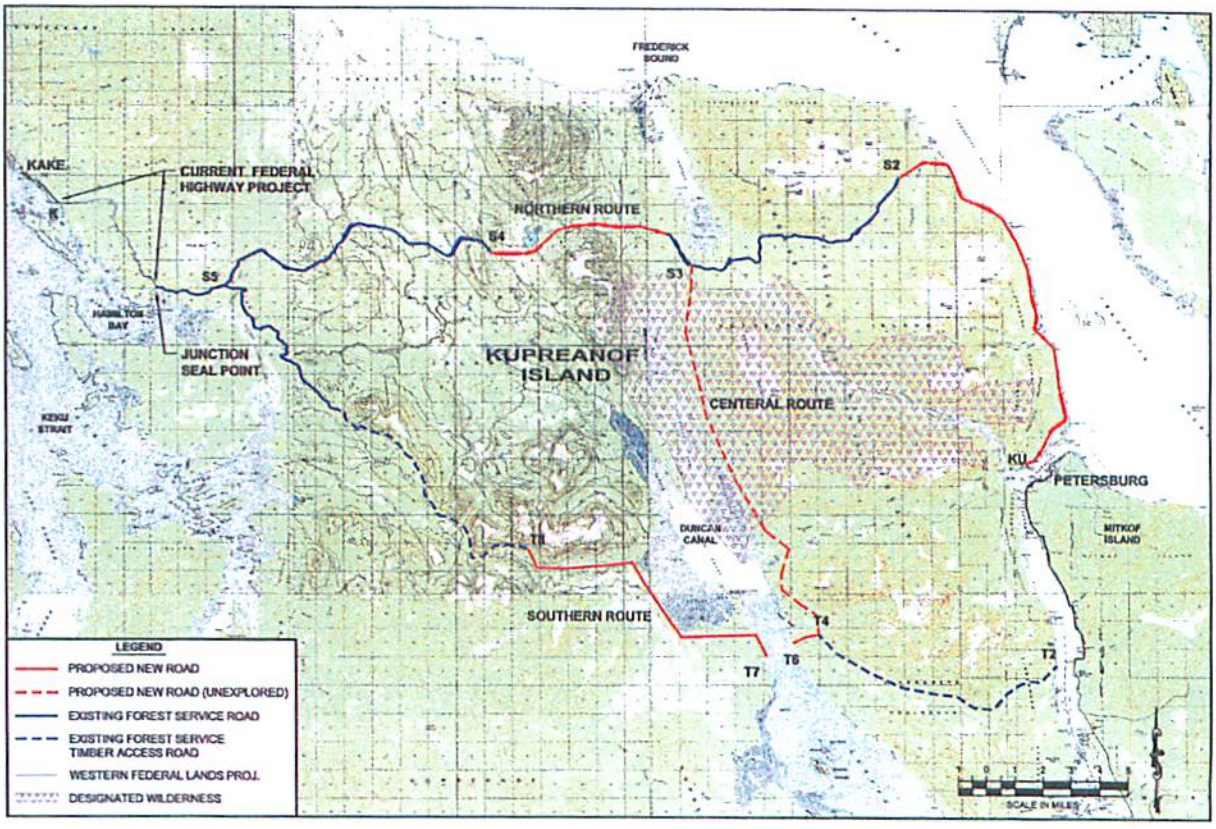
- Single Lane Road estimate $109.9 plus the Intertie cost estimate $48.3 = $158.2
- Two Lane Road estimate $161.1 plus the Intertie cost estimate $48.3 = $209.4

The above totals are comparable to the totals in rows 5 & 6 columns 1 & 2.

PROJECT SCOPE

Construct a road from Seal Point Jct. to Petersburg that would facilitate the construction and maintenance of a planned electrical intertie and provide road/ferry link between the two communities. This project proposes to develop a 53 mile section of road on Kupreanof Island between a forest highway project (known as the Kake to Seal Point Project) and a proposed ferry crossing of the Wrangell Narrows. The Forest Highway project is reconstructing a 6.2 mile section of the overall route between Kake and the junction with Seal Point Spur Road. The overall route known as Forest Highway 40 is approximately 60 miles in length.

Construct about 27 miles of new roadway to close two gaps in the island forest road system and reconstruct about 26 miles of existing forest service road to provide 53 miles of forest highway to complete a road connection between Kake and Petersburg. A proposed shuttle ferry facility would link Kupreanof and Mitkof Islands. Ultimately, the road connection would be upgraded to provide a paved two lane highway with two 11 foot paved driving lanes with 2 foot gravel shoulders. The road and shuttle ferry would be operated and maintained by the state.



PREVIOUS WORK TO DATE

On December 7, 2006 the State of Alaska was granted a 300 foot easement for highway and utility planning purposes, including the right to conduct engineering and all other activities necessary or incident to highway and utility planning, design and environmental review process, along, over and across a specific transportation utility corridor between Kake and Petersburg. This easement was granted pursuant to Section 4407 of Public Law 109-59 wherein the United State congress has directed that the reciprocal rights-of-way and easements identified on a map numbered 92337 be enacted and thereby granted between the United States and the State of Alaska. MOU is included as Appendix A. **The intertie project cannot proceed in this easement without the road location.**

$900K in State General funds were programmed to begin preliminary design. We have expended $598K leaving a current balance of 302K.

During summer 2008, DOT&PF completed preliminary terrain surveys including LIDAR and aerial photography along the Northern route only. This allowed DOT&PF to prepare preliminary drawings and provide a basis for a conforming estimate. Both Survey and Materials staff visited several locations along the Northern corridor. The activities and cost are included in the following table.

Activity	Expended
Geotechnical/Material Exploration	$ 89,000
Environmental Staff Support, meeting FHWA	$ 15,000
Pre-design Eng support for prelim engineering for 3 routes	$135,000
LIDAR contract Northern Route only	$162,000
DOT Preliminary Surveying	$167,000
Overhead	$ 30,000
TOTAL	$598,000

PRECONSTRUCTION PROJECT DEVELOPMENT OPTIONS – Federal vs. State Funded development process

Federal-aid Highway Development Alternative:

Using federal highway aid for construction would require the project to analyze **all** possible transportation corridors. The environmental document required by FHWA would likely be an **Environmental Impact Statement (EIS). Environmental approval must occur prior to proceeding with Right-of-Way and Design work.** Estimated time required to complete an EIS and Record of Decision (ROD) is optimistically 5-7 years. Federal highways would not pay for an Inter-tie construction road, since the road must meet AASHTO standards to be eligible for federal-aid highway funding. The following is for a two-lane island collector. FHWA requires that the entire preliminary engineering phase through environmental must be approved and programmed up front and a financial plan approved demonstrating how and when the Department plans to fund construction.

Rough Cost Environmental Estimate: $5-10 million
EIS scoping: (1-2 years) by 2011
Environmental document complete (5-7 years) 2017
Design: (2 years) 2019 Design Estimate: $5-7 million
Total Pre-construction Estimate (9-11 years) $10-17 million
Construction yr: begin 2021 or earlier

State Fund Development Alternative:

Using state general funding for construction, design and environmental permitting can occur simultaneously. The Northern Corridor – Section 4407 Easement would be the preferred alternative. The US Army Corps of Engineers, as federal permitting agency would determine the level of environmental assessment and documentation.

Environmental Permitting/Design: (2-4 years) by 2014
Estimate: $6.5 Million
Construction yr: begin 2014 or earlier

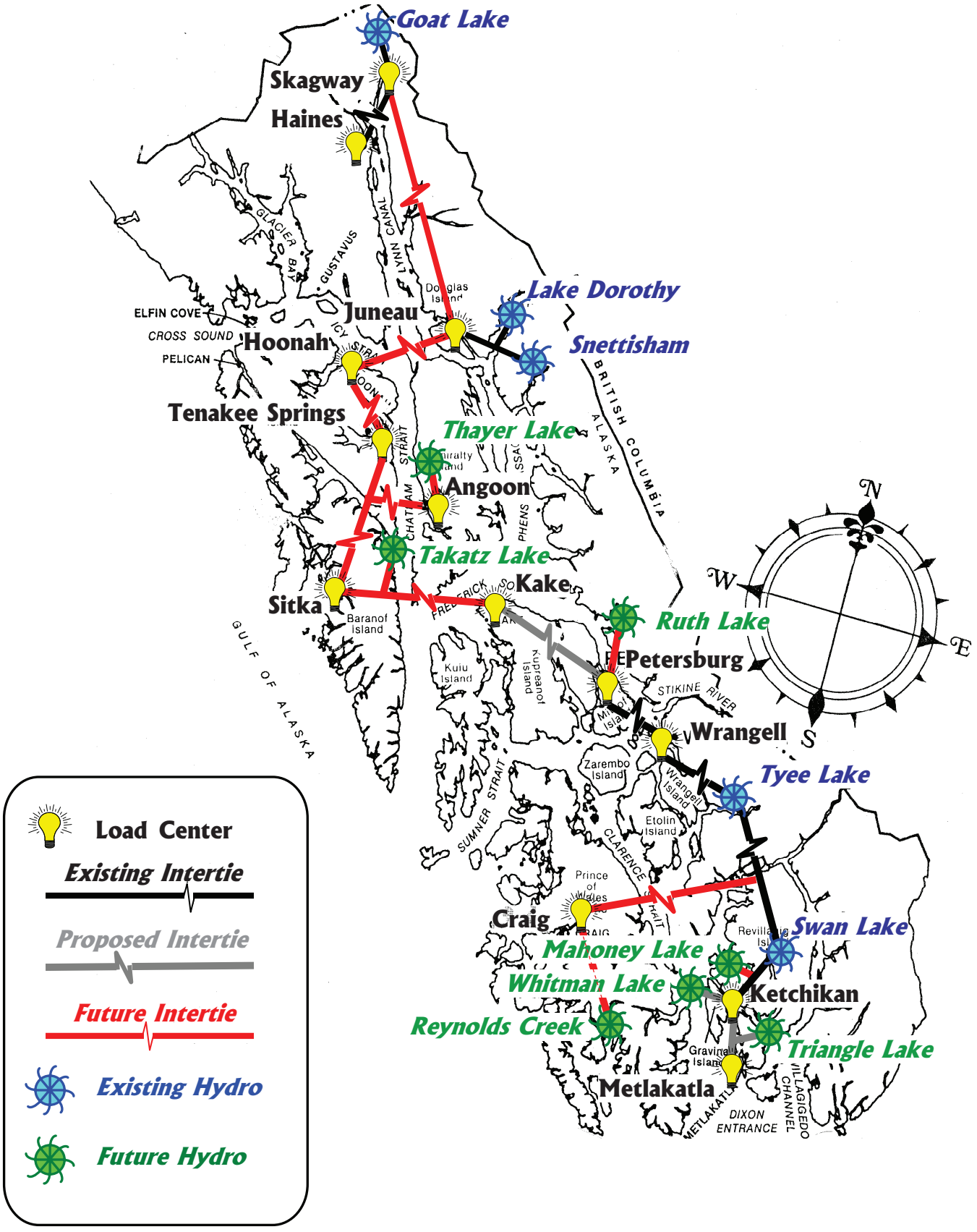
Future use of federal-aid to highways funding would require initiating the federal NEPA process from the beginning to satisfy the documentation requirements of the federal funding agency. Environmental surveys and data gathered in support of an Army Corps of Engineers Permit and mitigation measures required by the Forest Service would certainly serve to support the process required by a funding agency, but it would not avoid going through the funding agency's NEPA process.

Conclusion:

Developing the project using State General Funds instead of Federal-aid Highway Funds could result in saving more than three fourths the time and cost.

Use of State General Funds instead of Federal Highway Aid should cut the road project development timeline by up to 78% and the preconstruction cost by up to 88%. The estimated time difference between the preconstruction timeline and cost to develop the road project with state funds versus federal-aid to highways funds is, respectively, 4 years versus 11 years under the worst case estimate and a difference in cost of $6.5 million versus $17 million. The reduction in development time and cost is largely attributed to being able to work on all preconstruction project development phases simultaneously and employ state funds to focus on development within a Section 4407 Easement and avoid the sequential federal highway project preconstruction development process.

SOUTHEAST ALASKA ELECTRICAL INTERTIE



CITY OF PETERSBURG
P.O. BOX 329 • PETERSBURG, ALASKA 99833
TELEPHONE (907) 772-4519
FAX (907) 772-3759

April 22, 2010

Office of the Governor
Sean Parnell
PO Box 110001
Juneau, AK 99811-0001

RE: Petersburg Capital Projects

Honorable Governor Parnell:

As you are set to review the budget, we emphasize the great importance the budgeted projects in our area are to our community. They are projects which repair or replace existing infrastructure and services. The facilities they replace have slipped to substandard condition since they have been in use years longer than their estimated service life.

Petersburg has been suffering a downturn in the economy over the last few years more than most communities. Recently, we learned a large share of our fish processing activity will not be in operation this summer and the future return of that share is questionable.

Not only will our projects replace and repair infrastructure, they will serve as a measurable and needed boost to our local economy.

Thank you for your consideration.

Al Dwyer, Mayor
City of Petersburg

Cc: Ray Matiashowski
Weston Eiler
Karen Rehfeld, Director of O&B